

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF VIRGINIA  
RICHMOND DIVISION**

THE TRUSTEES OF COLUMBIA  
UNIVERSITY IN THE CITY OF NEW  
YORK,

*Plaintiff,*

v.

NORTONLIFELOCK INC.,

*Defendant.*

Civil Action No. 3:13-cv-00808-MHL

**FINAL PRETRIAL ORDER**

Plaintiff, the Trustees of Columbia University in the City of New York (“Columbia”), and Defendant NortonLifeLock Inc. (“Norton”) submit the following Proposed Joint Pretrial Order. The parties have stipulated to various matters and identified exhibits, witnesses, factual contentions, and triable issues. The parties also have noted issues in dispute and indicated their respective positions on each disputed issue. It is hereby ORDERED as follows:

**I. STIPULATION OF UNCONTROVERTED FACTS**

The parties submitted Written Stipulations of Uncontroverted Facts on January 21, 2022 (Dkt. 705, 705-1). Although the Court described the parties’ Written Stipulations of Uncontroverted Facts as “grossly inadequate” (Dkt. 743), the parties were unable to negotiate additional stipulations regarding uncontroverted facts. (See Dkt. 763 (Columbia’s Filing Regarding Written Stipulations); Dkt. 773 (Norton’s Notice Regarding Stipulation of Uncontroverted Facts).) Accordingly, to the extent that the Court will read or provide written stipulations of facts to the jury, the previously submitted Written Stipulations of Uncontroverted Facts (Dkt. 705-1), which are incorporated by reference herein, constitute those to which the

parties were able to agree, with the exception that Norton's headquarters is no longer in Mountain View, California, but is now in Tempe, Arizona.

## **II. GENERAL STIPULATIONS**

1. The parties have agreed on the order that trial will follow, as set forth below:

- Columbia's case-in-chief on infringement, fraudulent concealment, correction of inventorship, and damages.
- Norton's reply, on non-infringement, fraudulent concealment claim, correction of inventorship, and damages.
- Columbia does not currently anticipate a rebuttal case, but reserves the right to seek leave to present a rebuttal depending on Norton's trial presentation.
- Norton does not agree that a rebuttal case is appropriate and reserves all rights to object to any rebuttal case Columbia may attempt to present.

2. With respect to videotaped deposition testimony of Pedro Reyes that may be played at trial, the parties have previously agreed that the following deposition testimony applies to all Accused Products: Reyes Dep. Tr. 18:15-20, 21:24-23:5, 27:16-28:13, 35:5-21, 36:15-25, 46:7-15, 46:21-25, 47:4-48:2. The parties will meet and confer regarding an appropriate instruction to be given to the jury before the deposition video is played.

## **III. LEGAL AND EVIDENTIARY STIPULATIONS**

### **A. Jurisdiction and Venue**

The Court has subject matter jurisdiction over the claims for patent infringement and for correction of inventorship pursuant to 28 U.S.C. §§ 1331 and 1338(a), and the Court has

supplemental jurisdiction pursuant to 28 U.S.C. § 1367(a) over Columbia's fraudulent concealment claim because it is so related to the claims over which the Court has original jurisdiction that they form part of the same case or controversy under Article III of the United States Constitution.

The Court also has subject matter jurisdiction over all claims alleged herein under 28 U.S.C. § 1332 due to the diversity of citizenship of the parties. Under 28 U.S.C. § 1332(c)(1), this is a dispute between citizens of different States in which the matter in controversy exceeds the sum or value of \$75,000, exclusive of interests and costs. Columbia was formed by special act of the Legislature of the State of New York and has its principal place of business in New York. As such, Columbia is a citizen of the State of New York. Norton is a citizen of the States of Delaware (where it is incorporated) and Arizona (where it has its principal place of business).

Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(b) and (c) and 28 U.S.C. § 1400(b) because, among other reasons, Norton has offices and facilities in Herndon, Virginia and hence resides and is subject to personal jurisdiction in this judicial district.

**B. Authenticity of Party-Authored Documents**

Documents authored by a party and produced by that party in this action shall be deemed authentic (per FRE 901) for the purposes of this lawsuit, absent specific indicia on the face of the document that legitimately bring into question the authenticity of the document.

**C. Party Websites**

The parties agree that they will not contest the authenticity of copies of party webpages or copies of Internet Archive versions of party webpages. In each case, a party may raise reasonable objections if there are specific indicia that suggest the copy of the webpage or copy of the Internet Archive version of the webpage is inauthentic.

**D. Demonstrative Exhibits**

Any demonstrative exhibit that either party intends to be shown to the jury (excluding demonstratives used *only* during cross-examination, opening statements or closing arguments), shall be provided to the other party no later than 6:30 p.m. ET on the calendar day prior to such display. Demonstrative exhibits that consist only of a single excerpt from a single exhibit or a single transcript (which may be highlighted or enlarged) need not be disclosed; however, any demonstrative exhibits that include excerpts of exhibits or transcripts that include any other annotation or added text must be disclosed pursuant to this paragraph. The parties agree that demonstrative exhibits do not need to be included on the trial exhibits list, and shall not be admitted into evidence. Any objection to a demonstrative exhibit shall be made by 9 p.m. ET after the disclosure and the parties will meet and confer at 10 p.m. ET that evening, or some other time agreeable to the parties, to resolve any such objection.

Counsels' opening statement or closing argument presentations or cross-examination demonstratives are not subject to the disclosure requirements of this paragraph. Counsel using demonstrative exhibits for these purposes will remind the jury that they are not evidence.

**E. Discovery Responses**

The parties agree that written interrogatories and written responses to requests for admission shall be treated as having been given under oath, whether or not the answers were signed or verified by the party making them.

**F. Witness Notebooks**

When conducting direct examination of witnesses at trial, the parties will provide binders containing potential exhibits for use by such witnesses, with copies for the Court and

counsel. This does not prevent any counsel from seeking permission to publish any exhibit to the jury or providing the jury with a set of all of the admitted exhibits during deliberations.

**G. Better Copies**

More legible or better quality versions of exhibits may be offered and received in evidence in lieu of originals, subject to the right of the party or parties against which they are offered to inspect an original upon request.

**H. Exhibits to Which No Objection Has Been Made or Sustained**

An exhibit to which no objection has been made or, if made, has been overruled by the Court may be admitted into evidence, without the necessity of further proof of admissibility, if the exhibit is offered through a witness who provides substantive testimony about the exhibit at trial, either live or by deposition. This is without prejudice to the Court's rulings on motions *in limine* and *Daubert* motions.

**I. Admitted Exhibit Binders**

At the end of each trial day, each party will identify for the Court the exhibits that were introduced into evidence through its witnesses that day. Each party will provide the Court with a physical copy of all such exhibits before the start of trial the following morning, unless otherwise instructed by the Court. The parties agree to cooperate in good faith to ensure an efficient and orderly process for the creation and distribution of exhibits throughout trial, consistent with the Court's instructions and Section II.J, *infra*. If an exhibit exceeds 20 pages, the parties agree to cooperate in good faith to create an excerpted version of each such exhibit that will not exceed 20 pages to the extent possible.

**J. Procedures Regarding Witnesses and Exhibits**

The parties are required to disclose the expected order in which the witnesses will be called, and use good faith in identifying non-demonstrative exhibits that are intended to be used

in the direct testimony of each witness. Each party must identify to opposing counsel the identity of any live witnesses to be called at trial (and the order in which they will be called) by no later than 6:30 p.m. ET two (2) calendar days before the trial day on which that witness is expected to testify. Exceptions to such disclosures may be made for good cause (such as witness unavailability through no fault of the party) provided that prompt notice of any such change is provided.

Any exhibits that may be used on direct examination with any live witnesses (including demonstrative exhibits) must be identified in connection with such witness by no later than 6:30 p.m. ET on the calendar day before the start of the trial day on which the exhibit will be offered (*e.g.*, the exhibit(s) for witnesses to be called on Tuesday must be provided by 6:30 p.m. the preceding Monday). Any timely-raised objection to an exhibit on which the Court has not yet ruled shall be identified by 9:00 p.m. ET after the disclosure. The parties will meet and confer at 10 p.m. ET that evening or some other time agreeable to the parties to resolve any objections to the direct examination exhibits. The parties will cooperate in adjusting this schedule as necessary as trial progresses.

Except for when a fact witness testifies on the stand, fact witnesses are not to be allowed into the courtroom. The only exception to this is the parties' client representative, *i.e.*, a single individual who is the client representative for the duration of the trial, who will be allowed in the courtroom even if testifying in the case. Expert witnesses may be present during the trial.

**K. Procedures Regarding Deposition Testimony and Discovery Response Designations**

Subject to resolution of objections, if a party will play a video of deposition testimony which were identified on its High Priority Designations, the party will inform opposing counsel of the High Priority Designations to be played no later than 6:30 p.m. ET two (2) calendar days before the start of the trial day on which the video is expected to be played, along with a list

of any exhibits to be introduced with the video. Subject to resolution of objections, the video to be played will include the High Priority Counter-Designations that the other party previously identified in response to the High Priority Designations to be played, unless opposing counsel indicates that such counter-designations do not need to be included on the video. If the designating party does not identify for inclusion all of its High Priority Designations for any particular witness, opposing counsel will have the opportunity to have played the previously-designated and related counter-designated testimony. Identification of such previously-designated and counter-designated testimony will be provided by 8:30 a.m. ET the calendar day following notice of the video to be played, and any objections to the counter-designations will be provided by 6:30 p.m. ET the same day.

If deposition testimony was not included on the designating party's high priority designations, but was included on the party's original deposition designations, the testimony will only be included on the video in accordance with Section V.A, *infra*. Similarly, if deposition testimony was not included on the responding party's high priority counter-designations, but was included on the party's original deposition counter-designations, the testimony also will only be included on the video in accordance with the standard articulated in Section V.A, *infra*.

The parties will cooperate in seeking to have the Court resolve objections that they are unable to resolve among themselves prior to playing the proposed testimony, and identify any such objections. The offering party is to provide a hard copy of the deposition designations to be played or read to opposing counsel and to the Court at the time the deposition designations are presented to jury.

The party introducing the deposition testimony shall be responsible for editing the deposition video to include the designated and counter-designated testimony, and remove (i) any

objections or attorney colloquy, (ii) any portions of the video during which nothing is said, and (iii) any portions of the deposition that were designated solely for the purpose of authenticating or laying foundation for an exhibit. The parties agree that passages of testimony from a deposition will be presented in the order in which it was given by the deponent. When deposition designations are presented to the jury, those passages of testimony shall be deemed admitted into evidence without further action by counsel.

The party introducing the deposition testimony shall provide a final version of the video to be played at 8:30 a.m. ET the day it is to be shown to the jury or state in writing that the deposition testimony will instead be read into the record.

If a deposition video played during either party's case includes counter-designations from the other party, the parties agree that the Court will instruct the jury that the video includes testimony offered by both Columbia and Norton.

**L. Notice to the Court**

Promptly after any meet and confer contemplated by this Order, the parties shall attempt to agree upon a single email without argument that shall be sent by a party raising a dispute to the Court each night identifying any issues that the parties seek to have the Court address the next morning before the start of trial.

**M. Procedures Regarding Deposition Testimony Designated Solely for the Purpose of Authenticating or Laying Foundation for Exhibits**

The parties agree that, subject to the disclosure procedures outlined in Section III.K, *supra*, deposition testimony that is designated or counter-designated solely for the purpose of authenticating or laying foundation for an exhibit need not be presented to the jury so long as neither party makes objections to the authenticity of the exhibit or an authenticity objection has been overruled by the Court. In that case, the deposition designation and the exhibit that it sponsors



shall be provided to the Court reporter and/or Court clerk so that the testimony can be recorded in the official record and exhibit lodged with the Court, after which the deposition designation and the exhibit it sponsors shall be deemed admitted into evidence without further action by counsel.

#### IV. EXHIBITS

##### A. Exhibit Lists

The parties have segregated the documents, summaries, and other exhibits that may be offered into evidence at trial into exhibit lists. Pursuant to the Court's July 7, 2021 Order (Dkt. 657), the parties submitted their respective Exhibit Lists in January 2022. Columbia's Exhibit List (Dkt. 693), submitted on January 13, 2022, is attached as **Exhibit 1**. Norton's Exhibit List (Dkt. 711), submitted on January 21, 2022, is attached as **Exhibit 2**.

Pursuant to the Court's January 27, 2022 Order (Dkt. 715), the parties have narrowed their respective exhibit lists into "high priority" exhibit lists. The parties submitted their high priority exhibit lists on February 3, 2022, and submitted revised "high priority" exhibit lists reflecting, *inter alia*, the Court's rulings on motions *in limine*, on March 22 (Columbia) and March 24 (Norton). Columbia's High Priority Exhibit List is attached as **Exhibit 3**,<sup>1</sup> Norton's High Priority Exhibit List is attached as **Exhibit 4**,<sup>2</sup> and a Joint High Priority Exhibit List is attached as **Exhibit 5**.

Per Court Order, each party reserves the right to seek to introduce, subject to existing objections, any of the exhibits on their original exhibit lists only after a showing of good

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<sup>1</sup> Columbia filed its Second Updated High Priority Exhibit List on April 4, 2022 (Dkt. 1054), attached hereto as **Updated Exhibit 3**.

<sup>2</sup> Norton filed its Second Amended High Priority Exhibit List on March 31, 2022 (Dkt. 1007), attached hereto as **Updated Exhibit 4**.

faith and a compelling explanation demonstrating good cause as to why the exhibit was omitted from its high priority list.

If a party seeks to offer such an exhibit, that party must give twenty-four (24) hours' written notice with no more than a five-page explanation as to the basis for entering the exhibit. Opposing counsel shall file a written response, also no longer than five pages, before trial commences the next day. If the Court does not have sufficient time to rule, that will inure to the detriment of the party causing delay.

The parties agree to work in good faith to further expand the number of documents on their Joint High Priority Exhibit List and to further narrow the exhibits on each party's high priority exhibit list, including by entering into stipulations that will reduce the number of exhibits that need to be entered into evidence.

Each party may use any exhibit, even if it was not included on its exhibit lists, for cross-examination, impeachment, or rebuttal (if any).

**B. Objections to Exhibits**

Pursuant to Paragraph 17 of the Court's February 23, 2022 Order (Dkt. 743), the parties submitted objections to the exhibits on the other party's high priority exhibit list on March 4, 2022, and submitted revised objections reflecting, *inter alia*, the Court's rulings on motions *in limine*, on March 22 (Columbia) and March 23 (Norton). Columbia's remaining objections to the exhibits listed on Norton's High Priority Exhibit List are attached as **Exhibit 6**, and Norton's

remaining objections to the exhibits listed on Columbia's High Priority Exhibit List are attached as **Exhibit 7**.<sup>3</sup>

The parties agree to work in good faith to resolve or narrow objections to exhibits on which the Court has not yet ruled.

## **V. DEPOSITION DESIGNATIONS**

### **A. Deposition Designations**

Pursuant to the Court's July 7, 2021 Order (Dkt. 657), the parties designated deposition testimony and discovery materials that they may offer into evidence at trial. Columbia's Discovery Designations, submitted on January 13, 2022, are attached as **Exhibit 8**. Norton's Discovery Designations, submitted on January 21, 2022, are attached as **Exhibit 9**.

Pursuant to Paragraph 16 of the Court's February 23, 2022 Order (Dkt. 743), the parties narrowed their respective discovery designations into "high priority" discovery designations on February 28. Columbia's High Priority Discovery Designations are attached as **Exhibit 10**, and Norton's High Priority Discovery Designations are attached as **Exhibit 11**. Pursuant to Paragraph 16 of the Court's February 23, 2022 Order, the parties submitted counter-designations and objections to the other party's high priority discovery designations. Columbia's High Priority Counter-Designations and Objections, filed March 4, are attached as **Exhibit 12**. Norton's High Priority Counter-Designations and Objections, filed March 4 and revised on March 17, are attached as **Exhibits 13 and 14**.

Per Court Order, each party reserves the right to introduce, subject to existing objections, any of the discovery designations on their original lists only after a showing of good

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<sup>3</sup> The Court has issued Orders resolving the majority of the parties' exhibit objections (*see* Dkt. 969, 1006), which now are reflected in the parties' updated high priority exhibits lists (*see supra* n. 1 & 2).

faith and a compelling explanation demonstrating good cause as to why the testimony was omitted from its high priority designations or counter-designations.

If a party seeks to include such an designation or counter-designation in a video to be played to the jury, that party must give twenty-four (24) hours' written notice with no more than a five-page explanation as to the basis for including the designation or counter-designation. Opposing counsel shall file a written response, also no longer than five pages, before trial commences the next day. If the Court does not have sufficient time to rule, that will inure to the detriment of the party causing delay.

In response to paragraph one of the Court's order (ECF 916), the parties hereby confirm in writing that they will comply with the standard articulated above for High Priority Designations.

**B. Efforts to Resolve Objections**

The parties will work diligently and cooperatively to resolve or narrow objections to their respective deposition designations and counter-designations, and to the extent practicable, the parties will work diligently and cooperatively to group objections by type for the Court's convenience.

**VI. WITNESSES**

Pursuant to the Court's July 7, 2021 Order (Dkt. 657), the parties filed witness lists identifying which witnesses they will call live and which witnesses they will call by video at trial. Columbia's Witness List, submitted on January 13, 2022, is attached as **Exhibit 15**. Norton's Witness List, submitted on January 21, 2022, is attached as **Exhibit 16**.

Pursuant to Paragraph 15 of the Court's February 23, 2022 Order (Dkt. 743), the parties filed "high priority" witness lists identifying which witnesses they will call live and which

witnesses they will call by video on February 28, 2022. Columbia's High Priority Witness List is attached as **Exhibit 17**<sup>4</sup> and Norton's High Priority Witness List is attached as **Exhibit 18**.

The parties agree that, in lieu of calling certain witnesses adversely in Columbia's case-in-chief, Norton will call certain witnesses live and Columbia's cross-examination of each witness will be treated as if the witness had been called adversely in Columbia's case-in-chief. Norton will examine the witness on direct first and then Columbia will proceed with cross-examination.

## **VII. TRIAL PROCEDURES**

### **A. Opening Statements**

Opening statements will be limited to 75 minutes.

### **B. Closing Arguments**

Closing arguments will be limited to 90 minutes.

### **C. Trial Time**

Each party shall have 27 hours at trial to present its case, including opening and closing statements, direct examination, re-direct examination, cross examination, and deposition and discovery designations (*see* Dkt. 1006). Each party shall monitor its time and report the amount of time it has remaining to the Court at the conclusion of each day of trial. The parties shall exchange their respective positions concerning a given day's time usage by 7:00 p.m. ET each day, and cooperate in seeking to resolve any disputes concerning such time usage. To the extent such disputes cannot be resolved by the parties, the parties shall cooperate in seeking to have the Court resolve any such disputes.

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<sup>4</sup> On April 4, the Court granted Columbia's motion to amend its High Priority Witness List, attached hereto as **Updated Exhibit 17**.

**D. Other**

1. A party that files, during trial hours, any paper seeking relief in this case shall contemporaneous with such filing provide a hard copy (where practicable) of that filing in Court to the opposing party and to Chambers.

2. The parties jointly request that the latest version of the Federal Judicial Center's video on the patent system will be played to the jury before opening statements.

3. After both parties rest, the Court will provide a binder to each juror that will contain the Asserted Patents, the Court's claim constructions, the final stipulated facts, and the final jury instructions.

The parties also, after the trial ends each day, will provide to the Courtroom Deputy Clerk an agreed-upon binder that includes each exhibit, properly labelled, entered in evidence that day. This binder will not be presented to the jurors.

The Court encourages the parties to provide copies of complicated documents to the jurors – if it has been entered in evidence – so the jury (one per juror) may refer to it during testimony. If that is done, the documents will be collected immediately after the relevant testimony ends, even if the same witness continues to testify.

The parties will meet with the judge before closing arguments to determine whether any “core” documents, in addition to those named above should also be sent into the deliberation room to ease the process of deliberation. To the extent there is agreement, or the Court allows, the jury would be instructed to that those documents are *to be given no more or less weight than the remainder of evidence in the case.*

## **VIII. FACTUAL CONTENTIONS**

The following factual contentions broadly outline the facts that each party may present in its case-in-chief. The parties agree that this list of Factual Contentions may be supplemented and that the absence of a Factual Contention on this list shall not constitute waiver and shall not preclude the admissions of relevant evidence at trial. The factual contentions of the parties are as follows:

### **A. Columbia's Factual Contentions**

Columbia makes the following contentions, which may be disputed.

#### **i. '115 and '322 Patents**

1. The inventions claimed in U.S. Patent No. 8,074,115 (the "'115 Patent") and U.S. Patent No. 8,602,322 (the "'322 Patent"; collectively the "Asserted Patents") were invented by Professors Salvatore J. Stolfo and Angelos D. Keromytis, and their student Stylianos Sidiroglou, in the course of their work at Columbia University prior to October 2005.

2. Salvatore Stolfo is a Professor of Computer Science at Columbia University. Angelos Keromytis was an Associate Professor of Computer Science at Columbia and now is a Professor at Georgia Institute of Technology. Stylianos Sidiroglou was a doctoral student who worked under Professor Keromytis and is now a Research Scientist at the Massachusetts Institute of Technology.

3. Columbia researched and developed the technologies underlying the Asserted Claims. On October 25, 2005, Columbia filed the provisional patent application that eventually led to issuance of the Asserted Patents.

4. Norton was aware that Columbia was researching and developing the concepts underlying the Asserted Claims prior to November 2005. As memorialized in a

November 2005 email chain, the technology described in the provisional patent application—the “application communities” technology—was discussed with at least one Norton executive, Brian Witten. Mr. Witten expressed interest in Norton using the technology, and Professor Stolfo informed Mr. Witten that the technology was covered by intellectual property rights. Norton’s interest in use was strong, and the discussion progressed to specific licensing terms before any patent had issued, including running royalties that Norton proposed to pay to Columbia.

5. On May 3, 2007, the international application related to the Asserted Patents, WO2007/060667 (“WO/667”), became publicly available, as did the provisional application filed with the U.S. PTO in October 2005. (*See* Manual of Patent Examining Procedure § 103.) WO/667 included claims substantially similar to those in the ’322 Patent, including the requirement of “creating a combined model from at least two models created using different computers.”

6. Between 2006 and 2008, Dr. Stolfo continued to communicate with Mr. Witten. In a September 2008 email chain, Professors Stolfo and Keromytis discussed with Mr. Witten that any agreement regarding Columbia’s intellectual property would need to be conducted through Columbia’s Technology Ventures department. In that same chain, the patent license negotiations regarding the “Application Communities” technology were specifically referenced. Mr. Witten stated that the negotiations “took months as [Columbia] pushed [him] to the C-Level for exceptions within Symantec.” In other words, Norton’s interest in using the Columbia inventions was substantial, and Norton’s executives spent time considering Columbia’s patent-pending technology and the licensing options. Norton ultimately did not take a license, but still Norton incorporated the technology into a new version of a product feature, SONAR/BASH, which was launched in late 2009.



7. In January 2010, the application for the '115 Patent became publicly available, and Norton took note of it. In a new Norton patent application filed in December 2010, Norton cited the application for the '115 Patent (*i.e.*, US 2010/0023810). That was not the only time that Norton took note of Drs. Stolfo's and Keromytis's work. In 17 Norton patent applications submitted to the United States Patent and Trademark Office between 2006 and 2008, Norton cited as prior art inventions by Professor Stolfo or Professor Keromytis. These Norton patents include: U.S. Patent Nos. 8,621,625, 8,800,040, 8,429,744, 8,549,643, 9,161,249, 9,166,997, 9,141,790, 9,317,679, 9,148,441, 9,256,739, 10,432,720, 9,843,594, 10,146,893, 9,953,158, 9,825,986, 10,007,786, 10,339,304.

8. In June 2010, Columbia representatives met with Symantec's Chief Technology Officer and presented "technology packets" that again described Drs. Stolfo and Keromytis's patented work on detection of anomalous program executions. Following up in August 2010, Columbia sent additional technology packets to Norton, and then re-sent them to Norton's Darren Shou (at his request) in November 2010. Additionally, in September 2010, Norton representatives participated in a joint cyber-security project with Columbia and other universities, and Columbia's Dr. Keromytis presented on his areas of invention, including application communities and detection of anomalous program executions, as described in the Asserted Patents.

9. Following the June 2010 meeting, Symantec again reached out to Columbia to discuss Columbia's research in the field of computer security. At a January 2011 meeting, Columbia disclosed the subject matter of several invention reports including the reports that are the basis of the '115 and '322 Patents. Columbia provided Symantec with a map of Columbia's technology, which included specific report identification numbers related to the '115 and '322

Patents. As Columbia's witnesses testified at deposition, a routine search of Columbia's website would have linked the specifically identified report numbers to the pending '115 and '322 patents.

10. The '115 Patent issued on December 6, 2011, and Columbia sent Norton a letter in August 2012 identifying the '115 Patent and advising that Norton likely required a license. On December 3, 2013, the '322 Patent issued, and Columbia informed Norton in a December 6, 2013 letter. On December 24, 2013, Columbia filed the First Amended Complaint in this action, alleging infringement of both patents. (Dkt. 12.)

11. Norton's Accused Products, or the use of the Accused Products by Norton and its customers, infringe claims 2, 11 and 27 of the '322 Patent and claim 2 of the '115 Patent (the "Asserted Claims") literally or under the doctrine of equivalents. Columbia may refer at trial to the Asserted Claims as "the Asserted Claims," "the Asserted Patents," or "the Patents."

12. Although there are several Accused Products, each product is accused of infringing the Asserted Patents on the basis of the same product feature called SONAR/BASH. The SONAR/BASH feature became infringing with technology introduced in version 6.0 of SONAR/BASH, launched in 2009, and included in all later versions of SONAR/BASH. The infringing SONAR/BASH feature was included in all Accused Products from 2009 to the present. Thus, all of the Accused Products are accused of infringement for substantially the same reason.

13. SONAR/BASH uses decision trees that are models of function calls created by modeling program executions. Each decision tree is a combined model created from numerous individual program execution models—which are included in something called a BASH Submission—that were created on different computers run by Norton's customers around the world. Norton created the combined decision tree models from the individual BASH Submission models using a machine learning algorithm.

14. Each decision tree includes so-called attributes (“Attributes”), many of which are referred to as “Shields” and represent a running program’s function calls to Windows system Application Program Interfaces (“APIs”) and to Windows operating system services. SONAR/BASH represents the behavior of a running computer program in the form of Shields and other Attributes that provide “context” for the Shields.

15. SONAR/BASH monitors a running program in an emulator and evaluates Attributes of the running program, including Attributes collected when the running program attempts to call certain Windows system APIs. The Attributes are evaluated through a comparison to the combined decision tree model of function calls that was created by modeling program executions.

16. To monitor and selectively execute a running program, SONAR/BASH is configured to use User Mode Hooking, Kernel Mode Hooking and Windows callbacks and filtering to observe the runtime behavior of a program. Once SONAR/BASH is installed on a customer’s computer, if SONAR/BASH is turned on, each running program is executed in an emulator that monitors certain program behaviors (*e.g.*, the program’s function call to a Windows API) and has the ability to selectively execute the program (*e.g.*, to stop the program, allow the program to continue running, or to allow only portions of the program to run). What happens to the program depends on a process called “Scoring,” which is a comparison of the running program’s Attributes, including Attributes representing the function call that triggered Scoring, to the combined decision tree model of function calls. Scoring may identify the function call that triggers Scoring, in a particular context, as deviating from normal program execution and thus determine that the function call may reflect malicious behavior. SONAR/BASH also can

determine that the function call made by the program executing in the emulator is likely “valid” and thus allow execution to continue.

17. SONAR/BASH may ultimately “convict” a program if it determines, with a particular degree of confidence, that the monitored function call likely represents malicious behavior. Before “convicting” a program, SONAR/BASH will “consult” with another product feature, called Reputation or Insight, to see if the program, for example, comes from a trusted source. In that way, SONAR/BASH avoids “false convictions.”

18. SONAR/BASH included Kernel Mode Hooking capability no later than BASH version 6.0, released in 2009. SONAR/BASH included User Mode Hooking capability no later than BASH version 7.0, released in May 2012.

19. Norton collects millions of BASH Submissions from its customers around the world, which are the product of valid and malicious Scoring of monitored function calls. Each BASH Submission includes a model of the monitored function call, with its particular “context,” that was created by modeling the monitored program’s execution, as described above. Each BASH Submission also includes the disposition based on Scoring along with the model of the monitored function call. Norton collected those individual BASH Submission models from millions of customers and combined them into a decision tree model using a machine learning algorithm.

20. Until early 2018, Norton periodically distributed an updated decision tree to its customers for use in SONAR/BASH. The updated decision tree incorporated information about anomalous function calls that were identified and included in individual customer BASH Submissions between the release of any two decision trees. Thus, Norton’s customers—all members of an application community—would regularly notify each other of anomalous function calls via “live updates” that included new decision trees created and distributed by Norton. In

early 2018, Norton determined that it had an optimal decision tree, and thereafter distributed that combined model decision tree for use by all customers. Through the present day, Norton's SONAR/BASH feature utilizes a combined model of function calls that represents a machine learning combination of millions of individual BASH Submission models created on the computers of customers around the world.

21. The features of SONAR/BASH material to decision tree analysis have not changed since 2010. Norton has not made changes to SONAR/BASH source code since 2010.

22. SONAR/BASH was researched, developed, tested and mastered by the Symantec Technology and Response ("STAR") team in the United States. Electronic master versions of the Accused Products have been stored on servers in the United States at all times since at least 2009. The master build systems for the Accused Products have been located in the United States at all times since at least 2009.

23. To distribute the vast majority of the Accused Products to customers, Norton has contracted with Content Delivery Networks ("CDNs") to facilitate electronic download by Norton's customers. These CDNs have included Akamai, Microsoft Azure, Flexnet/Flexera, and Amazon Web Services. CDN's receive a copy of software from a server located in the United States and the CDN then is an electronic delivery service that delivers the software to customers around the world.

24. From at least December 6, 2011 through the present, Norton has directly infringed at least one Asserted Claim by making, using, testing, selling, and offering to sell the Accused Products, which include the infringing SONAR/BASH feature. Claim elements satisfied by the actions of Norton's customers are attributable to Norton because, among other reasons, the

customers must take those actions when the Accused Product is used as intended by Norton and in order to receive the benefit of the Accused Products purchased from Norton.

25. From at least December 6, 2011 through the present, Norton has induced its customers' infringement of the Asserted Claims. Norton intended that its customers would infringe the Asserted Claims during that period because, among other things (i) the Accused Products, as manufactured and distributed by Norton, have SONAR/BASH turned on by default, (ii) Norton encourages all customers to leave the infringing functionality turned on at all times, and (iii) customers in fact use Norton's Accused Products in an infringing manner. Norton had knowledge (actual or through willful blindness) of at least one of the Asserted Claims since at least December 6, 2011.

26. From at least December 6, 2011 through the present, Norton has contributed to the infringement of the Asserted Claims by selling the Accused Products including SONAR/BASH to customers because (i) SONAR/BASH has no substantial non-infringing uses, (ii) SONAR/BASH constitutes a material part of the Asserted Claims, and (iii) Norton knows that SONAR/BASH was especially made for use in the Accused Products.

27. From December 6, 2011 through February 28, 2022 (during which Columbia alleges Norton infringed the Asserted Claims), Norton received a total of \$17,071,622,946 from sales of products from the Norton AntiVirus, Norton Internet Security, Norton 360, Norton Security, and Symantec Endpoint Protection families, which consisted of \$8,242,017,470 from customers in the United States and \$8,829,605,476 from customers outside of the United States. The cost of goods sold for these products in the Norton AntiVirus, Norton Internet Security, Norton 360, Norton Security, and Symantec Endpoint Protection families was

\$1,546,395,746, of which \$917,963,749 was for products sold to customers in the United States and \$628,431,997 was for products sold to customers outside of the United States.

28. The sales data that Norton produced for April 2019 through February 2022 was materially incomplete. Therefore, conservatively assuming that sales of accused consumer products for 2020 and later years remained flat compared to the calendar year 2019, for the period from December 6, 2011 through April 11, 2022 (during which Columbia alleges that Norton infringed the Asserted Claims), Norton received a total of \$18,422,202,494 from sales of products from the Norton AntiVirus, Norton Internet Security, Norton 360, Norton Security, and Symantec Endpoint Protection families, which consisted of \$9,047,535,465 from customers in the United States and \$9,374,667,029 from customers outside of the United States. Based on the same assumption, the cost of goods sold for these products in the Norton AntiVirus, Norton Internet Security, Norton 360, Norton Security, and Symantec Endpoint Protection families was \$1,629,493,560, of which \$1,010,336,850 was for products sold to customers in the United States and \$619,156,710 was for products sold to customers outside of the United States.<sup>5</sup>

29. As compensation for Norton's infringement of the Asserted Claims, Columbia is owed a reasonable royalty determined as the amount a willing licensee and licensor would have agreed to during a hypothetical negotiation in December 2011 or in December 2013 (if infringement is found for the '322 Patent only).

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<sup>5</sup> On March 21, 2022, Columbia raised with Norton that updated sales data that Norton produced on March 11, 2022 appeared to improperly omit certain accused Norton products. Columbia requested that Norton produce, but Columbia has not yet received, corrected data. If Norton produces complete and accurate data sufficiently ahead of trial, Columbia reserves the right to provide updated revenue and cost amounts—and a calculation of the reasonable royalty—based on that updated data.

30. A hypothetical negotiation between Columbia and Norton for a license to the Asserted Claims would have resulted in an agreement for Norton to pay Columbia a running royalty calculated as a percentage of Norton's revenue from sales of the Accused Products through expiration of the Asserted Patents.

31. A hypothetical negotiation between Columbia and Norton for a license to the Asserted Claims would have applied to Norton's worldwide sales. Norton's sales of Accused Products that are used by customers outside of the United States are sales of products made in and distributed from the United States, substantially used in the United States, and the sales themselves are substantially made in the United States. The Accused Products also were conceived, designed, developed, tested, mastered, and stored for distribution in the United States. Norton's U.S. infringement of the Asserted Claims is, at a minimum, a substantial, direct, and foreseeable cause of sales of Accused Products to and use of Accused Products by end user customers outside the United States.

32. The parties would agree to a license beginning around December 6, 2011, when the '115 Patent was issued, and extending through the expiration of the Asserted Patents on October 25, 2026. If only the '322 Patent is found infringed, the parties would agree to a license beginning around December 3, 2013, when the '322 Patent was issued, and extending through the expiration of the Asserted Patents on October 25, 2026. Columbia will seek relief and damages from the jury only for the period including sales figures provided by Norton, and will seek royalties for later and future infringing sales post-verdict via a submission to the Court.

33. For past infringement only, a reasonable royalty for infringement of the Asserted Claims is at least (i) \$211,301,118 (based on actual data), or an effective royalty rate of at least 1.24% applied to worldwide sales, from December 2011 to February 2022 only; or



(ii) \$228,181,725 (based on estimated data for 2020 to 2022), or an effective royalty rate of at least 1.24% applied to worldwide sales, from December 2011 to April 11, 2022 only. If only the '322 Patent is found infringed a reasonable royalty for infringement of the '322 Patent is at least (i) \$156,079,884 (based on actual data), or an effective royalty rate of at least 1.22% applied to worldwide sales, from December 2013 to February 2022 only; or (ii) \$172,935,089 (based on estimated data for 2020 to 2022), or an effective royalty rate of at least 1.23% applied to worldwide sales, from December 2011 to April 11, 2022 only. An effective running royalty rate, based on the reasonable royalty determined by the jury for past infringement, would apply to Norton's infringing sales from (i) March 2022 (if using actual data) or (ii) April 12, 2022 (if using estimated data) to the expiration of the patents on October 25, 2026.

34. As described previously, Norton learned of Columbia's technology covered by the Asserted Claims at least by November 2005, and Norton copied Columbia's technology in creating the infringing SONAR/BASH feature, which was launched in 2009. Norton had knowledge of the '115 Patent and '322 Patent (actual knowledge or willful blindness) by the date of issuance of each patent.

35. Columbia also provided actual notice of the '115 Patent to Norton by letter from Columbia Technology Ventures dated August 14, 2012.

36. Columbia also provided actual notice of the '322 Patent at least by December 6, 2013 to Norton by letter from Columbia's counsel.

37. Norton also received additional actual notice of the '115 Patent when this case was filed on December 5, 2013, and additional actual notice of the '322 Patent on December 24, 2013 when Columbia filed the amended complaint in this case.

38. As of October 3, 2014, despite actual knowledge of the Asserted Claims, Norton had not even investigated whether the Accused Products infringed the Asserted Claims or evaluated design-arounds that might avoid infringement.

39. As of February 22, 2019, Norton still had not even evaluated design-arounds that might avoid infringement of the Asserted Claims.

40. Norton does not have plans to remove the infringing SONAR/BASH from the Accused Products and continues to sell Accused Products with the infringing SONAR/BASH.

41. Norton's infringement of the Asserted Claims was willful, and damages awarded to Columbia for patent infringement should be enhanced pursuant to 35 U.S.C. § 284. Columbia also is entitled to pre-judgment interest. Columbia will further describe Norton's egregious conduct that should lead to enhanced damages in post-verdict briefing should the jury find infringement.

42. Columbia also is entitled to attorneys' fees and costs pursuant to 35 U.S.C. § 285, at least since this case resumed in the District Court in 2018. At least since that time, this case has been exceptional because, among other things, Norton has repeatedly made unmeritorious arguments that delayed resolution of Columbia's claims and unnecessarily increased litigation costs, as Columbia will further describe in post-verdict briefing should the jury find infringement.

**ii. Claims Relating to the '643 Patent**

43. Beginning in 2004, Columbia disclosed confidential information to Norton pursuant to a Non-Disclosure Agreement ("NDA"), both orally and in writing. The NDA required the parties to use disclosed information "only for the purpose for which it was disclosed" and prohibited the "use or exploit[ation of] such information for their own benefit or benefit of a third party without the prior written consent of the Disclosing Party."

44. Columbia and Norton's 2006 joint grant proposal to the National Intelligence Community Enterprise Cyber Assurance Program ("NICECAP") included Professors Stolfo's and Keromytis's existing research regarding the use of a "decoy system" to detect and prevent the loss of sensitive data. The May 22, 2006 NICECAP proposal was substantially drafted by Professor Keromytis and the August 29, 2006 NICECAP proposal merely expanded on the earlier proposal that Professor Keromytis had substantially drafted.

45. On May 31, 2006, Columbia filed a provisional patent application claiming Professors Stolfo and Keromytis's invention that was embodied in the NICECAP proposal. This patent application claims the combination of decoy technology and exfiltration detection systems, such as data loss prevention systems.

46. On May 27, 2009, Columbia filed a non-provisional patent application claiming priority to the provisional application that it had filed in 2006.

47. On September 23, 2009, Columbia filed another non-provisional patent application relating to its decoy technology.

48. In March 2010, Columbia and Norton worked on joint grant proposal to the United States Government's Defense Advanced Research Projects Agency ("DARPA"). Professors Stolfo and Keromytis worked with Norton employees Marc Dacier and Darren Shou and submitted a joint proposal, entitled "Honeypots for Insider Threats on Closed Intelligence Networks." The primary basis for this proposal was the 2006 NICECAP proposal.

49. In the course of filing for the DARPA proposal, Norton and Mr. Shou were aware that Columbia had filed patent applications concerning the underlying technology.

50. Norton and Professors Stolfo and Keromytis understood the disclosures Columbia made to Norton during the drafting of the 2006 NICECAP and 2010 DARPA proposals were confidential.

51. The parties' confidential communications continued through March 2010 and the filing of the DARPA proposal.

52. On March 18, 2010, Darren Shou submitted an internal invention disclosure form ("IDF") entitled, "Integrating Decoys and Data Loss Prevention." The IDF was based upon the inventions, materials, and technology that Professors Stolfo and Keromytis had provided to Norton in confidence, including oral communications and information embodied in Columbia's drafts of the 2006 NICECAP proposal, and, in fact, the IDF was substantially copied and pasted from the 2010 DARPA proposal, which itself was substantially copied and pasted from the 2006 NICECAP proposal. The IDF stated that it was based on "confidential discussions with Columbia University faculty [] in preparation for a Government confidential submission for funding." The IDF only listed Marc Dacier and Darren Shou, and not Professors Stolfo and Keromytis, as inventors.

53. On March 24, 2010, Norton contacted Professors Stolfo and Keromytis, attaching a portion of the IDF, and asked Professors Stolfo and Keromytis whether they should be named as inventors. The IDF sent to the Professors was an excerpted version of the IDF that omitted (i) the "All Inventors" section, which did not include Professors Stolfo and Keromytis, and (ii) that Norton's Patent Filtering Committee had voted to file a patent application the day before, on March 23, 2010.

54. In response to the March 24, 2010 email, Professor Stolfo confirmed that he invented the technology described in the IDF prior to the collaborations between Columbia and Norton and that Norton should not file the provisional application.

55. In response to the March 24, 2010 email, Professor Keromytis confirmed that he invented the technology described in the IDF.

56. On March 24, 2010, Darren Shou represented via email to Professors Stolfo and Keromytis that both of them would be included as co-inventors in the patent application that Norton filed based on the IDF.

57. On March 24, 2010, Marc Dacier represented via e-mail to Professors Stolfo and Keromytis that he had told Norton to ensure that they had inventorship of the application correct, *i.e.*, that Professors Stolfo and Keromytis were included as inventors.

58. On April 2, 2010, Norton filed a provisional patent application 61/320,609 that only named Norton employees Marc Dacier and Darren Shou, and not Professors Stolfo or Keromytis as inventors. At the time Norton filed the provisional patent application, Norton knew that Darren Shou's and Marc Dacier's affirmative representations to Professors Stolfo and Keromytis that they would be included as co-inventors were false and were intended to cause, and did cause, Professors Stolfo and Keromytis to not take steps to protect their and Columbia's interests in reliance on that statement.

59. On April 5, 2010, Norton again contacted Professors Stolfo and Keromytis, to inform them that Norton would file the provisional patent application over Columbia's objection later that week, but in fact Norton had already filed the provisional application. Norton also did not correct the previous misrepresentation that Professors Stolfo and Keromytis would be named as inventors by informing Professors Stolfo and Keromytis that they were not listed as inventors

in the provisional patent application. Norton had a duty to disclose to Columbia relevant facts concerning its filing of the provisional patent application, including that Professors Stolfo and Keromytis were not named as co-inventors, due to Norton's superior knowledge concerning that provisional patent application, which Norton never shared with Columbia. Norton's omission of the fact that Professors Stolfo and Keromytis were not named as co-inventors—despite (i) Norton asking Professors Stolfo and Keromytis whether they were co-inventors and Professors Stolfo and Keromytis responding in the affirmative, (ii) Darren Shou explicitly telling Professors Stolfo and Keromytis that they would be named as co-inventors, (iii) Marc Dacier telling Professors Stolfo and Keromytis that he had told Norton to ensure that inventorship of the application was correct, *i.e.*, that Professors Stolfo and Keromytis would be named as inventors, and (iv) the fact that Norton knew that Professors Stolfo and Keromytis had not been named as co-inventors in the provisional patent application that Norton had filed the previous week—was a material omission that was intended to induce, and did induce, Professors Stolfo and Keromytis to not take steps to protect their and Columbia's interests in reliance on those statements. That Norton disclosed to Columbia that it would file the provisional patent application over Columbia's objections, coupled with Norton's superior knowledge concerning its patent applications, further created the expectation that Norton would disclose to Columbia if it planned to file a patent application over Columbia's objection.

60. On March 31, 2011, Norton contacted Professors Stolfo and Keromytis regarding a non-provisional patent application, entitled "Integrating Decoys and DLP" that claimed priority to the 2010 provisional application. The draft non-provisional application that Norton sent to Columbia listed Professors Stolfo and Keromytis as inventors, along with Darren

Shou and Marc Dacier. Norton did not inform Columbia that Professors Stolfo and Keromytis had not been listed as inventors in the provisional application.

61. Thus, Norton did not correct its previous misrepresentations that Professors Stolfo and Keromytis would be listed as co-inventors in the provisional patent application, and its new inquiries tended to confirm that the prior representations Norton had made were true, *i.e.*, that the provisional patent application had listed Professors Stolfo and Keromytis as co-inventors. This continued course of conduct was further intended to induce, and did induce, Professors Stolfo and Keromytis to not take steps to protect their and Columbia's interests in reliance on Norton's misrepresentations. Given Norton's superior knowledge concerning the provisional and non-provisional patent applications, Norton had a duty to disclose relevant facts concerning those applications to Columbia, including (i) that Professors Stolfo and Keromytis had not been listed as co-inventors in the provisional patent application and (ii) if Norton decided to file a non-provisional patent application that did not include Professors Stolfo and Keromytis.

62. In the March 31, 2011 e-mail, Norton again asked whether Professors Stolfo and Keromytis considered themselves to be inventors of the non-provisional patent application. That same day, Professor Stolfo confirmed to Norton that he was an inventor, that he had invented the subject matter of the application prior to the collaborations between Columbia and Norton, and that Norton should not file the non-provisional patent application. Norton never responded to this e-mail.

63. On March 31, 2011, Marc Dacier and Darren Shou, both Norton employees, had an e-mail discussion in which Dr. Dacier asserted that Professors Stolfo and Keromytis should be included as inventors on the non-provisional patent application.

64. On March 31, 2011, David Murphy (a Columbia employee) e-mailed Darren Shou and informed him that Professor Stolfo had told him that “[Norton]’s patent counsel contacted him and two other faculty at Columbia asking for them to participate in a filing of a patent application covering their (Columbia’s) inventions of integrating DLP with decoys” and that Professor Stolfo had “made it clear that this is not of interest.” The next day, on April 1, 2011, Darren Shou responded to David Murphy and told him that he had told Norton’s counsel to “work it out and account for [Professor Stolfo’s prior patent] filing.” This was the final communication between Norton and Columbia concerning the non-provisional patent application.

65. Columbia understood Darren Shou’s statement to mean that either (i) Norton would not file the non-provisional patent application due to Columbia’s objection or (ii) if Norton filed the non-provisional patent application, it would list Professors Stolfo and Keromytis as inventors. Further, based on Norton’s course of conduct relating to the provisional patent application—where Norton informed Columbia that it had decided to file the application over Columbia’s objections—Columbia understood that Norton would inform Columbia if it decided to file the non-provisional application over Columbia’s objection.

66. Between April 1, 2011 and April 4, 2011, Darren Shou made changes to the claims of the non-provisional application in an attempt to avoid having to list Professors Stolfo and Keromytis as inventors. Darren Shou never told Columbia or Professors Stolfo and Keromytis that when he said that Norton would “work it out and account for [Professor Stolfo’s prior patent] filing,” he meant that he would attempt to change the claims so that Norton would not have to list Professors Stolfo and Keromytis as inventors, nor did anyone from Norton inform Columbia or Professors Stolfo and Keromytis that this is what Darren Shou meant in his April 1 statement. Given Darren Shou’s conduct, his statement that Norton would “work it out and account for



[Professor Stolfo's prior patent] filing" was ambiguous, and Norton had a duty to correct that ambiguous statement by informing Columbia that it intended to change the claims so that it would no longer have to list Professors Stolfo and Keromytis as inventors on the non-provisional patent application. Norton also had an independent duty to disclose this fact to Columbia due to its superior knowledge concerning its patent applications.

67. Each of Norton's affirmative misrepresentations, material omissions, and partial or ambiguous statements were made in the context of a years-long business relationship—which continued until Columbia learned of U.S. Patent No. 8,549,643 (the "'643 Patent") in 2013—and discussions concerning commercialization of Professors Stolfo's and Keromytis's decoy technology.

68. On April 4, 2011, Norton filed the non-provisional patent application, which listed only Marc Dacier and Darren Shou as inventors. Norton requested that the U.S. Patent and Trademark Office maintain the non-provisional application as confidential with the intent of concealing its misrepresentations and misconduct from Columbia, which prevented Columbia from learning about the non-provisional application and taking steps to protect its own interests before the patent issued.

69. Norton never corrected the misrepresentations it had made to Columbia that Professors Stolfo and Keromytis would be named as inventors on the non-provisional patent application, nor did Norton provide any notice to Columbia or Professors Stolfo and Keromytis that it had filed the non-provisional application, let alone filed that application without listing Professors Stolfo and Keromytis as inventors. Due to its superior knowledge concerning its patent applications and prior course of conduct during the filing of the provisional patent application, Norton had a duty to disclose to Columbia that (i) it had filed the non-provisional patent application

over Columbia's objection and (ii) that application did not list Professors Stolfo and Keromytis as inventors. Norton failed to tell these facts to Columbia in order to induce Professors Stolfo and Keromytis to not take steps to protect their and Columbia's interests in reliance on Norton's misrepresentations.

70. During discussions in the 2017-2019 period, Dr. Dacier told Dr. Keromytis, among other things, that he (i) was "surprised" that this litigation was ongoing, (ii) was "sorry" about what Norton had done with Columbia's technology, and (iii) had opposed Norton's decision to claim Columbia's invention as its own because that decision was "wrong." Dr. Dacier expressed similar sentiments to Dr. Stolfo at a professional conference in 2017. Then, in 2019 and 2020, Dr. Dacier told Dr. Keromytis, Columbia's counsel, Norton, and Norton's counsel that he would gladly testify if called by Columbia at trial, but he was concerned that Norton would threaten him with contractual "trouble" if he helped Columbia.

71. Norton obtained value from the '643 Patent in several ways, including by using it as a "defensive" patent to protect sales of its Data Loss Prevention product, which prevented competitors from incorporating the technology into products that competed with Norton's own computer security products.

72. From April 4, 2011 through September 30, 2013, Norton sold 1,448,644 units of products from the Data Loss Prevention family to U.S. customers, with \$52,603,396 in total revenue from U.S. customers. The cost of goods sold for these products in the Data Loss Prevention family was \$8,630,593 for products sold to U.S. customers.

73. From October 1, 2013 through April 30, 2019, Norton sold 4,574,975 units of products from the Data Loss Prevention family to U.S. customers, with \$247,820,940 in total

revenue from U.S. customers. The cost of goods sold for these products in the Data Loss Prevention family was \$52,767,188 for products sold to U.S. customers.

74. As a result of Norton's fraudulent concealment in connection with the filing of the application that matured into the '643 Patent, Columbia lost the ability to obtain a patent on the technology that Professors Stolfo and Keromytis invented that is claimed in the '643 Patent. Before Norton filed the provisional and non-provisional applications that led to the issuance of the '643 Patent, Columbia had filed its own patent application relating to the same subject matter. Columbia was actively prosecuting those patent families, filing continuation applications on May 27, 2009, September 23, 2009, June 22, 2011, July 23, 2014, March 9, 2015, and May 16, 2016, which claimed different aspects of Professors Stolfo's and Keromytis's invention. Because Norton obtained the '643 Patent, Columbia could not file a continuation application claiming the aspect of Columbia's invention embodied in the '643 Patent. Thus, due to Norton's fraudulent concealment, Columbia lost the ability to obtain what became the '643 Patent. The value of what Columbia lost is represented by the amount that Norton would have paid to purchase the '643 Patent from Columbia at the time of the fraudulent concealment. Norton would have paid Columbia \$22,219,421 to purchase the '643 Patent. Columbia suffered damages in this amount as the result of Norton's fraudulent concealment.

75. Professors Stolfo and Keromytis are the actual inventors—or co-inventors—of the '643 Patent, and the Court should exercise equitable discretion to correct the inventorship of the '643 Patent.

**B. Norton's Factual Contentions**

Norton makes the following contentions, which may be disputed.

1. Norton, then known as Symantec, was founded with a National Science Foundation grant in 1982, originally focused on artificial intelligence-related technologies.
2. In 1990, Symantec acquired Peter Norton Computing.
3. Norton Antivirus was first released in 1991. Norton-branded products have been protecting its customers from malicious attackers ever since.
4. Since at least 1995, Norton products has been using technologies to detect malicious software based on the software's behavior.
5. Since at least 2001, Norton products have been using machine learning to detect malicious software.
6. Since at least 2007 through the 2019 acquisition of Norton's enterprise security business by Broadcom, Norton has also sold an enterprise security product called Symantec Endpoint Protection.
7. Norton's products offer many layers of protection, including at the network level, at the file level, and at runtime, as well as reputation-based technologies.
8. Norton's products, including the accused SONAR technology, do not identify function calls as deviating from normal.
9. The accused products do not infringe any asserted claim of the '115 and '322 patent, because they lack numerous limitations of those claims.
10. The accused SONAR technology was developed years before the issuance of the asserted patents, and without knowledge of the asserted patents or the technology described therein.

11. If found to infringe, Norton's infringement would not be willful, wanton, malicious, bad-faith, deliberate, consciously wrongful, flagrant, or characteristic of a pirate. For a significant period over which Norton is alleged to infringe, the parties had stipulated that Norton did not infringe. In addition, Norton has strong non-infringement defenses.

12. Indeed, Columbia has received virtually no revenue from licensing the '115 and '322 patents, and very little from licensing its computer security portfolio.

13. Claim 1 of the '115 Patent represents an unasserted claim against which the alleged improvement in the asserted claims should be measured in calculating a reasonable royalty.

14. BPE within SONAR is non-infringing.

15. Columbia and Norton do not compete in the marketplace, and Columbia does not practice the asserted patents.

16. Columbia is willing to license its technology.

17. If Norton is found to infringe, Columbia is not entitled to enhanced damages or attorneys' fees.

18. Norton is entitled to pre-judgment interest, and attorneys' fees and costs pursuant to 35 U.S.C. § 285.

**i. '643 Patent**

19. Norton had long been selling products using decoy technology, dating back to its 2002 acquisition of ManTrap, which it renamed Symantec Decoy Server.

20. The 2006 NICECAP proposal prepared by Mr. Witten, Dr. Keromytis, and Dr. Stolfo, relied extensively on Symantec Decoy Server.

21. By the end of 2009, if not earlier, the substance of the 2006 NICECAP proposal was well-known, and the 2006 NICECAP proposal itself was publicized no later than the September 2009 publication of U.S. Patent Publication No. 2009/0241191.

22. On March 24, 2010, Norton counsel Delos Larson contacted Professors Keromytis and Stolfo regarding a potential patent application relating to the DARPA proposal. Dr. Stolfo stated that he did not think the application should be filed because “[t]here is prior art.” Mr. Larson asked for documents relating to that prior art, but Columbia employee Calvin Chu informed Mr. Larson that those documents could not be shared with Mr. Larson at that time.

23. On April 2, 2010, Norton filed Provisional Patent Application No. 61/320,609.

24. On March 31, 2011, Norton counsel Benjamin Kimes provided a draft non-provisional application relating to integrating decoys and data loss prevention to Dr. Stolfo and Dr. Keromytis. Columbia indicated to Norton that same day that Columbia had earlier filed for patents on the subject matter of the draft non-provisional application.

25. Between March 31, 2011 and April 4, 2011, Mr. Shou and Mr. Kimes added additional disclosures to the draft non-provisional patent application relating to, e.g., generating additional targeted decoy traffic based on the detected intrusion. Mr. Shou informed David Murphy of Columbia that Norton would be proceeding with the patent application.

26. On April 4, 2011, Norton filed non-provisional application, U.S. Patent Application No. 13/066,013, that claimed priority to Provisional Patent Application No. 61/320,609.

27. During prosecution of the ’643 Patent, the Examiner determined that the claims of the ’643 Patent were allowable over U.S. Patent Publication No. 2009/2041191, a 2009

publication of a patent application filed by Dr. Stolfo and Dr. Keromytis, based on claim limitations relating to generation of additional bait data.

28. On October 1, 2013, the United States Patent and Trademark Office issued the '643 Patent, which lists Darren Shou as the sole inventor.

29. Darren Shou is properly identified as the sole inventor of the '643 patent.

30. Dr. Stolfo's and Dr. Keromytis's purported contributions to the '643 patent are nothing more than well-known concepts.

31. Norton never intended to use the '643 patent, and there is no evidence that anyone else has.

32. Columbia has received very little revenue from licensing its decoy patent portfolio to Allure.

33. There is no support for Columbia's '643 patent royalty approach.

34. Norton did not have any duty to disclose its '643 patent-related patent filings to Columbia, nor was the filing of the application for the '643 patent material. Regardless, Norton did in fact disclose the filing of the application that issued as the '643 patent to Columbia.

35. Columbia did not confer any benefit to Norton in connection with the 2006 NICECAP proposal and the 2010 communications between Norton and Dr. Stolfo and Dr. Keromytis, because those communications were merely of public information and/or well-known concepts.

## **IX. TRIABLE ISSUES**

### **A. The Triable Issues as Contended by Columbia**

#### **i. '115 and '322 Patents**

1. Whether Norton has directly infringed the Asserted Claims, literally or under the doctrine of equivalents.

2. Whether Norton has induced infringement of the Asserted Claims.

3. Whether Norton has contributed to infringement of the Asserted Claims.

4. Whether Norton's infringement was willful.

5. The reasonable royalty Columbia should receive from Norton to compensate Columbia for Norton's infringement of the Asserted Claims.

#### **ii. Claims Relating to the '643 Patent**

6. Whether Norton made knowingly false misrepresentations or omitted material information in violation of a duty to disclose information to Columbia in the course of filing for and obtaining the '643 Patent, which were intended to and did induce forbearance of steps Columbia would have otherwise taken to protect its interests.

7. The damages Columbia should receive from Norton to compensate Columbia for Norton's fraudulent concealment.

### **B. The Triable Issues as Contended by Norton**

1. Whether Norton directly infringes claim 2 of the '115 patent.

2. If it is found that another person directly infringes claim 2 of the '115 patent, whether Norton induces such person's infringement of claim 2 of the '115 patent.

3. If it is found that another person directly infringes claim 2 of the '115 patent, whether Norton contributes to such person's infringement of claim 2 of the '115 patent.

4. Whether Norton directly infringes claims 2, 11, or 27 of the '322 patent.



5. If it is found that another person directly infringes claims 2, 11, or 27 of the '322 patent, whether Norton induces such person's infringement of claims 2, 11, or 27 of the '322 patent.

6. If it is found that another person directly infringes claims 2, 11, or 27 of the '322 patent, whether Norton contributes to such person's infringement of claims 2, 11, or 27 of the '322 patent.

7. If Norton is found to infringe a valid claim of any of the Asserted Patents, whether such infringement is willful.

8. If Norton is found to infringe a valid claim of any of the Asserted Patents, whether and to what extent Columbia is entitled to damages.

9. Whether any allegedly confidential disclosures made to Norton by Columbia in fact were made under any agreement or other obligation imposing a confidentiality obligation on Norton.

10. Whether the 2004 Non-Disclosure Agreement imposed confidentiality obligations after 2009.

11. Whether Norton had a duty to disclose the filing of the application for the '643 patent to Columbia.

12. Whether Norton made knowingly false misrepresentations to Columbia, or violated a duty to disclose information, in the course of filing for and obtaining the '643 Patent, which were intended to and did induce forbearance of steps Columbia would have otherwise taken to protect its proprietary and confidential disclosures and own interests.

13. Whether Professors Stolfo and Keromytis are the sole inventors of the '643 Patent, or joint inventors of the '643 Patent.

14. If Norton is found to have fraudulently concealed, the damages Columbia should receive from Norton to compensate Columbia for the fraudulent concealment.

#### **X. POST-VERDICT ISSUES**

Pursuant to the Court's April 5, 2022 Order (Dkt. 1060), Columbia filed a statement with legal and factual support setting forth substantive arguments as to each of the post-verdict issues listed below by April 6 at 9:00 a.m. ET, and Norton filed a response to Columbia's statement, also containing legal and factual support and setting forth Norton's substantive arguments as to each of the post-verdict issues listed below by 4:00 p.m. ET that same day.

The parties agree that the post-verdict issues include:

1. An accounting of damages for Norton's pre-verdict sales of Accused Products that were not included in the jury's verdict.
2. The post-verdict reasonable royalty Columbia should receive from Norton through the expiration of the Asserted Claims on October 25, 2026.
3. The amount of pre-judgment interest that Norton owes to Columbia.
4. Whether Columbia is entitled to enhanced damages, pursuant to 35 U.S.C. § 284, and the amount thereof.
5. Whether Columbia is entitled to attorneys' fees and costs, pursuant to 35 U.S.C. § 285, and the amount thereof.
6. Whether the Court should exercise its equitable power to correct inventorship of the '643 Patent to identify Professors Stolfo and Keromytis as the sole inventors or joint inventors along with Darren Shou.
7. Whether Columbia is entitled to other equitable relief.

## **XI. MISCELLANEOUS**

### **A. Missing Witness Instruction**

On March 15, the Court granted Columbia's request to provide a missing witness instruction regarding Dr. Dacier (Dkt. 889 at 14-17). Columbia proposed to offer the missing witness instruction before Dr. Dacier's video deposition was played. Norton reiterated its rationale in its Motion to Reconsider and Motion *in Limine* Nos. 5 and 6, wherein Norton objected to the Court providing any missing witness instruction regarding Dr. Dacier. Dkt. 801, 928. Should its objection have been overruled, Norton sought to have the instruction given alongside all other instructions, not when Dr. Dacier's testimony was presented.

The Court ruled that it would not give the missing witness instruction during testimony, and has sought briefing on other aspects of this instruction.

### **B. Parties' Division of the Examination of An Expert Witnesses Between Two Lawyers**

The parties will be permitted to split the direct examination of one expert witness between two counsel (one partner and one associate).

Dated: April 6, 2022

Respectfully submitted,

/s/ John M. Erbach

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**SO ORDERED**

  
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M. Hannah Lauck  
United States District Judge